CLAIMS

1. An automatic programming device that creates a machining program for machining a machining region determined by using a work model and a product model with an NC device, with respect to a two-spindle machine tool having a main spindle and a sub-spindle, and a one-spindle machine tool having only the main spindle as a control object, comprising:

a first machining program creating unit that creates a machining program for the two-spindle machine tool;

a second machining program creating unit that creates a machining program for the one-spindle machine tool; and

a selecting unit that determines whether the control object is the two-spindle machine tool or the one-spindle machine tool, and actuates either one of the first and the second machining program creating units according to the determination result.

2. The automatic programming device according to claim 1, wherein the first machining program creating unit collectively executes process development processing for breaking down machining of a first process to be performed by using the main spindle and a second process to be performed by using the sub-spindle into a unit of machining, for which continuous machining is performed with the same spindle and the same tool, and

the second machining program creating unit executes process development processing for breaking down machining of the first process to be performed by using the main spindle and the second process to be performed by using the sub-spindle into a unit of machining unit, separately for the machining in the first process and the second process.

3. The automatic programming device according to claim 2, wherein the first machining program creating unit comprises:

a product model setting unit that selectively sets a product model;

a work model setting unit that selectively sets a work model;

a jig setting unit that sets a jig for each of the first and the second processes;

a registration setting unit that executes registration processing between the product model and the work model in the first and the second processes;

a process division setting unit that determines a process dividing position between the first process and the second process;

a process development processor that breaks down machining in the first process and machining in the second process into a unit of machining unit; and

a program development processor that creates a machining program for each of the first and the second processes based on the information relating to the process-developed machining units, tool information, and cutting conditions.

4. The automatic programming device according to claim 2, wherein the second machining program creating unit comprises:

a product model setting unit that selectively sets a product model;

a work model setting unit that selectively sets a work model;

a jig setting unit that sets a jig for each of the first and the second processes;

a registration setting unit that executes registration processing between the product model and the work model in the first and the second processes;

a process division setting unit that determines a process dividing position between the first process and the second process;

a work model reversing unit that reverses the direction of the work model by 180 degrees;

a process development processor that breaks down machining in the first process and machining in the second process into a unit of machining unit; and

a program development processor that creates a machining program for each of the first and the second processes based on the information relating to the process-developed machining units, tool information, and cutting conditions.

5. An automatic programming method for creating a machining program for machining a machining region determined by using a work model and a product model with an NC device, with respect to a two-spindle machine tool having a main spindle and a sub-spindle, and a one-spindle machine tool having only the main spindle as a control object, wherein

it is selected whether the control object is the two-spindle machine tool or the one-spindle machine tool,

when the two-spindle machine tool is selected as the control object, a machining program is created by sequentially executing: product model setting processing for selectively setting a product model; work model setting processing for selectively setting a work model; first process jig setting processing for setting a jig for the first process to be performed by using the main spindle;

registration processing of the product model and the work model in the first process; process division setting processing for determining a process dividing position between the first process and the second process to be performed by using the sub-spindle; second jig setting processing for setting a jig for the second process; registration processing of the product model and the work model in the first process; process development processing for breaking down machining in the first process and machining in the second process into a unit of machining unit; and program development processing for creating a machining program for each of the first and the second processes based on the information relating to the process-developed machining units, tool information, and cutting conditions, or when the one-spindle machine tool is selected as the control object,

a machining program is created by sequentially executing: product model setting processing for selectively setting a product model; work model setting processing for selectively setting a work model; first process jig setting processing for setting a jig for the first process to be performed by holding one end of the work model by the main spindle; registration processing of the product model and the work model in the first process; process division setting processing for determining a process dividing position between the first process and the second process, which is performed by holding the other end of the work model by the main spindle; process development processing for breaking down machining in the first process into a unit of machining unit; first process program development processing for creating a machining program for the first process based on the information relating to the process-developed first process machining units, and tool

information and cutting conditions for the first process; work reversing processing for reversing the work model and holding the work model by a main spindle machine model; second process jig setting processing for setting a jig for the second process; registration processing of the product model and the work model in the second process; process development processing for breaking down machining in the second process into a unit of machining unit; and second process program development processing for creating a machining program for the second process based on the information relating to the process-developed second process machining units, and tool information and cutting conditions for the second process.

6. A program for making a computer execute the method according to claim 5.